

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph at page 12, lines 1-5 with the following paragraph:

FIG. 3 shows the slope obtained for each of a plurality of different oligomers (SEQ ID NOS:1-80) whose experimentally determined melting temperatures (T_m 's) are fit to a linear function of $\log[\text{Na}^+]$, plotted as a function of each oligomer's G-C content $f(\text{G-C})$. Melting temperatures for each oligomer were measured in ~~estimated~~ sodium cation concentrations of 68.9, 220, 621 and 1020 mM and are set forth in Table I, *infra*.

Please replace the paragraph at page 12, lines 7-9 with the following paragraph:

FIG. 4 shows the slopes, as a function of G-C content $f(\text{G-C})$, obtained where the inverse of experimentally determined melting temperatures (*i.e.* $1/T_m$) for each of the plurality of different oligomers (SEQ ID NOS:1-80) are fit to a linear function of $\log[\text{Na}^+]$ utilizing Equation 6.2, *infra*.

Please replace the paragraph at page 19, lines 3-5 with the following paragraph:

This invention pertains to a method for predicting the melting temperature at a specific ion concentration for a polynucleotide having a certain G-C content. This invention can be applied to the design of oligonucleotide probes, hybridization and PCR methods, and microarray hybridization methods.

Please replace the paragraph at page 27, lines 5-14 with the following paragraph:

Computer System. The analytical methods described herein can be implemented by the use of one or more computer systems. **FIG. 2** schematically illustrates an exemplary computer system suitable for implementation of the analytical methods of this invention. The components of the computer system **201** include processor element **202** interconnected with a main memory **203**.

The computer system can contain other components such as a mass storage device **204** and user interface devices **205** including for example, example, a monitor, a keyboard, and/or pointing devices **206** like a mouse or other graphical input device. The computer system **201** can be linked to a network **207**, which can be part of an Ethernet, a local computer system (e.g., as part of a local area network or LAN), and/or a wide area communication network (WAN) such as the Internet.